

NOTE: The document identifier and heading has been changed on this page to reflect that this is a performance specification. There are no other changes to this document. The document identifier on subsequent pages has not been changed, but will be changed the next time this document is revised.

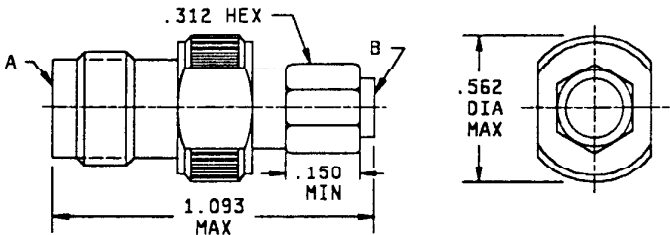
MIL-PRF-55339/40A
1 May 1978
SUPERSEDING
MIL-A-55339/40
11 January 1977

PERFORMANCE SPECIFICATION

ADAPTER, CONNECTOR, COAXIAL, RADIO FREQUENCY,
(BETWEEN SERIES SMA (MALE) TO SERIES TNC (FEMALE)), CLASS 2,
STRAIGHT PLUG

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The complete requirements for procuring the adapter described herein shall consist of this document and the latest issue of Specification MIL-PRF-55339.



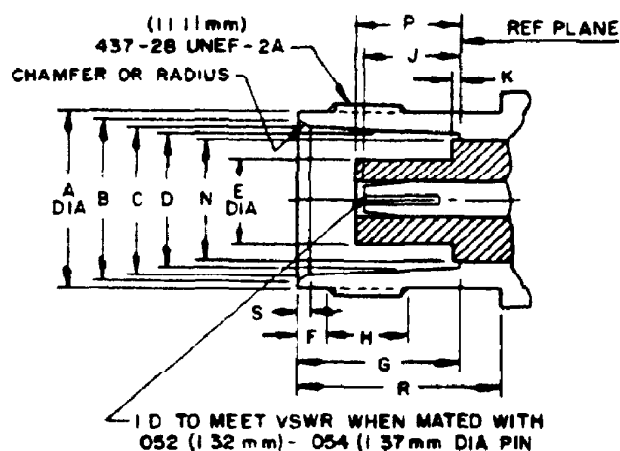
Reference	Series	Contact	Figure
A	TNC	Socket	2
B	SMA	Pin	3

Inches	mm
.150	3.81
.312	7.92
.562	14.27
1.093	27.76

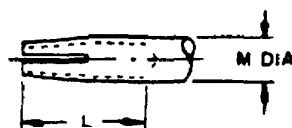
- NOTES:
1. Dimensions are in inches
 2. Metric equivalents are given for general information only and are based upon 1 inch = 25.4 mm.
 3. All undimensioned pictorial representations are for reference purposes only.
 4. Wrench flats to accommodate standard wrench per H-28, appendix 10.

FIGURE 1. General configuration.

MIL-A 3339/40A



Ltr	Dimensions in inches with metric equivalents (mm) in parentheses (see note)	
	Minimum	Maximum
A	.378 (9.60)	.381 (9.68)
B	.345 (8.76)	.356 (9.04)
C	.327 (8.31)	.333 (8.46)
D	.319 (8.10)	.321 (8.15)
E		.186 (4.72)
F	.068 (1.73)	.088 (2.24)
G	.329 (8.36)	.333 (8.46)
H	.187 (4.75)	
J	.188 (4.72)	.206 (5.23)
K		.006 (.15)
L	.195 (4.95)	
M	.081 (2.06)	.087 (2.21)
N		.256 (6.50)
P	.188 (4.78)	.208 (5.28)
R	.415 (10.54)	
S	.015 (.38)	.030 (.76)

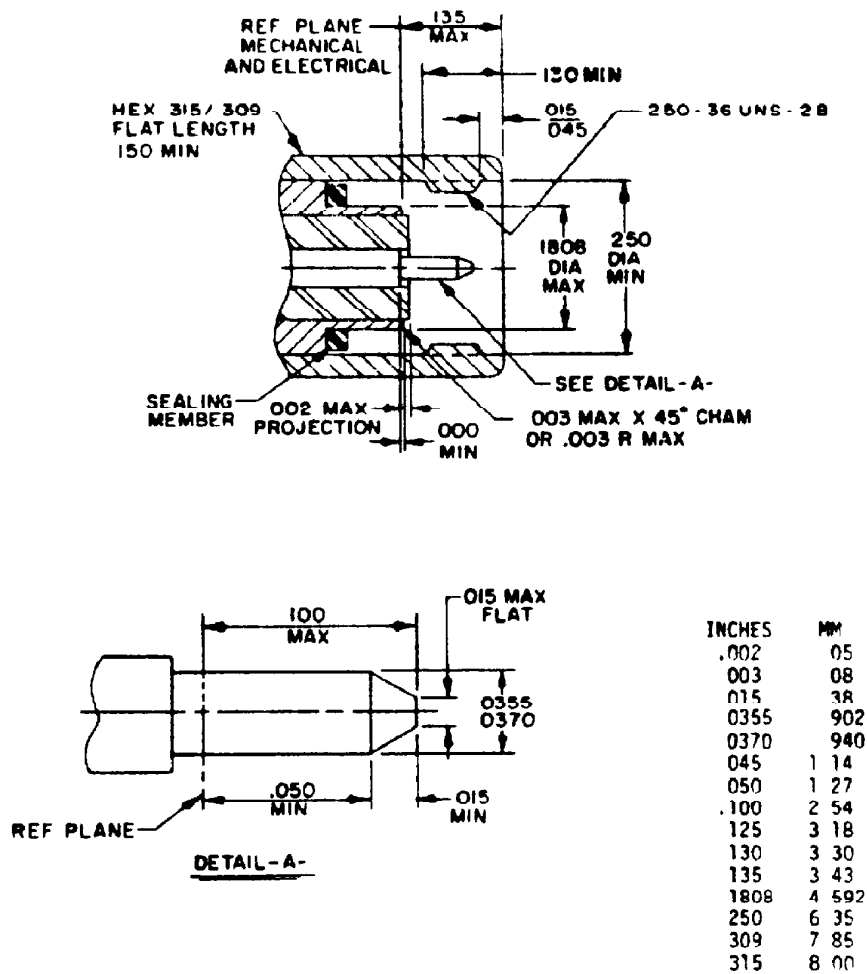


*N dimension applies to that portion (if applicable) of the dielectric which protrudes beyond the metal shoulder (or reference plane) by dimension K

NOTES

- 1 Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm
- 2 All undimensioned pictorial configurations are for reference purposes only

FIGURE 2 Mating dimensions for TNC contact terminations



NOTES

- 1 Dimensions are in inches
- 2 Metric equivalents are given for general information only and are based upon 1.00 inch = 25.4 mm
- 3 Three holes .016 (41 mm) minimum diameter, equally spaced, are required for safety wiring after mating. Location on coupling nut optional.

FIGURE 3 Mating dimensions for SMA contact terminations.

MIL-A-55339/40A

ENGINEERING DATA

Nominal impedance 50 ohms
Frequency range 0 to 11 GHz.
Voltage rating 335 volts rms maximum working voltage at sea level, 85 volts rms at 70,000 feet.
Temperature range -65° to +165°C.

REQUIREMENTS

Dimensions and configurations See figures 1, 2, and 3

Center contact retention
Axial force - 6 pounds minimum.

Force to engage and disengage
Longitudinal force - Not applicable.
Torque - 2 inch-pounds maximum.

Coupling proof torque
Series SMA - 15 inch-pounds, minimum.
Series TNC - Not applicable.

Inspection conditions
Coupling torque - Series SMA - 7 to 10 inch-pounds.
Series TNC - 4 to 6 inch-pounds.

Mating characteristics
Series SMA - Not applicable.
Series TNC
See figure 2 for dimensions.
Center contact (socket)
Oversize test pin - .057 inch minimum.
Insertion depth - .125 inch minimum.
Number of insertions - 1.

Insertion force test Steel test pin diameter - .054 inch minimum.
Test pin finish - 16 microinches.
Insertion force - 2 pounds maximum.

Withdrawal force Steel test pin diameter - .052 inch maximum
Withdrawal force 2 ounces minimum.
Test pin finish 16 microinches.

Permeability Not to exceed 2.

Insulation resistance 5,000 megohms minimum.

Voltage standing wave ratio (VSWR) $1.15 + 0.15 F(\text{GHz})$ at .5 to 11 GHz

RF leakage -60 dB minimum tested at a frequency of 2 to 3 GHz.

RF insertion loss $.06 \sqrt{F(\text{GHz})}$ dB maximum at 6 GHz.

Durability 500 cycles minimum at 12 cycles per minute maximum.

Dielectric withstanding voltage 1,000 volts rms minimum at sea level

Contact resistance 10 milliohms maximum.

	<u>Initial</u>	<u>After environment</u>
Center contact	4.5 $\frac{1}{2}$	6.0
Outer contact	2.2	---

^{1/} Two center contacts must be mated to the center conductor under test therefore doubling center contact resistance

Vibration, high frequency. Method 204, MIL-STD-202, test condition D, interruptions -1 μ s maximum.

Shock (specified pulse) Method 213, MIL-STD-202, test condition I.

Thermal shock: Method 107, MIL-STD-202, test condition C.

Moisture resistance 200 megohms minimum.

Corona level

Voltage - 375 volts minimum.

Altitude - 70,000 feet minimum.

RF high potential withstanding voltage.

RF voltage - 1,000 volts rms minimum.

Frequency - 5 to 7.5 MHz.

Salt spray (corrosion): Method 101, MIL-STD-202, test condition B.

Coupling mechanism retention force

Series TNC - Not applicable.

Series SMA - 60 pounds minimum.

Part number M55339/40-50001 (safety wire holes (SMA))

-50101 2/ (without safety wire holes)

Revision letters are not used to denote changes due to the extensiveness of the changes.

Custodians

Army - EL

Navy - EC

Air Force - 85

Review activities

Army - MI, EL, AT

Navy - SM

Air Force - 11, 99

DLA - ES

User activities

Army - AT, AR

Navy - AS, MC

Air Force - 19

Preparing activity

Army - EL

Agent

DLA - ES

(Project 5935-3029-1)

2/ For logistic purposes ~~adapters~~ with only the safety wire holes shall be stocked

OFFICIAL BUSINESS
LTY FOR PRIVATE USE \$300

POSTAGE AND FEES PAID
DEPARTMENT OF THE ARMY
DOD - 314



Commander
US Army Electronics Command
ATTN: DRSEL-RD-TS
Fort Monmouth, NJ 07703

